

REMARKS

Applicant has carefully reviewed and considered the Office Action mailed on May 30, 2003, and the references cited therewith.

Claims 17, 21, 23, 26, 31, 33, 36-37, 39-40, 42, 44, and 46 are amended. No claims are canceled or added. As a result, claims 17-18, 21-23, 26-27, 31-33, 36-40, 42, 44, and 46 remain pending in this application.

Amendments to the Specification

On page 7, the paragraph beginning on line 18 has been amended to describe the proposed changes to FIG. 3 (described earlier). Specifically described are periphery 114, central core region 115, and solder bumps 113 of die 110. Also described are periphery 134, central core region 135, and power and ground lands 129 of substrate 120.

On page 7, the paragraph beginning on line 26 has been amended to correct the spelling of "contiguous".

On page 8, the paragraph beginning on line 8 has been amended by inserting "signal" before "terminals"; by inserting "and power and ground lands 129" after "lands 124"; by inserting "signal" before "bumps 112"; and by inserting "and power and ground bumps 113, respectively" after "bumps 112".

On page 8, the paragraph beginning on line 26 has been amended by substituting "128, and 129" for "and 128".

On page 9, the paragraph beginning on line 27 has been amended by inserting "signal" before "lands 124"; and by adding the sentence "Signal lands 124 are located around the periphery 134 of the "conductor region" (as defined below)."

On page 10, the paragraph beginning on line 12 has been amended by substituting "power and ground lands 129" for "lands 124"; and by adding the sentence "Power and ground lands 129 are located within a central core region 135 of the "conductor region" (as defined below)."

No new matter has been added by way of these amendments to the specification. Support for these amendments may be found in the original drawings and in the original written description, as indicated above regarding the proposed changes to FIGS. 3-4 of the drawings.

Amendments to Claims 17, 21, 23, 26, 31, 33, 36-37, 39-40, 42, 44, and 46

Claims 17, 21, 23, 26, 31, 33, 36-37, 39-40, 42, 44, and 46 have been amended. No new matter has been introduced.

In general throughout the pending claims, the word “including” has been substituted for “having”.

In independent claim 1, the language “further including at least one sprocket hole in the film, outside the conductor region” has been added. Support may be found, for example, in FIG. 4 and on page 11, lines 1-2 of the original written description.

In independent claims 21, 26, 31, and 37, the language “the plurality of lands including a plurality of signal lands around the periphery of the conductor region, the plurality of lands further including a plurality of power and ground lands within a central core region of the conductor region” has been added. Support may be found, for example, in FIG. 3 (as amended), and on page 7, lines 18-25, and page 15, lines 11-13 of the original written description.

In dependent claims 23, 33, and 39, the phrase “of the layers” has been added.

In dependent claims 36, 40, 44, and 46, the word “selected” has been substituted for “different”.

In dependent claim 42, the phrases “wherein the film comprises a plurality of contiguous layers, selected ones of which layers comprise selected ones of the plurality of traces, and”; and “selected ones of” have been added. In addition, the word “selected” has been substituted for “different”. Support may be found, for example, in FIG. 3; in the paragraph beginning on page 7, line 26, as amended; in the paragraph beginning on page 8, line 24; and in original claim 19.

Certain of the amendments to the claims are made to satisfy Applicant’s preferences, not necessarily to satisfy any legal requirement(s) of the patent laws, and they are not intended to limit the scope of equivalents to which any claim element may be entitled.

Rejection of Claims 23, 33, 36, 39, 42, 44 and 46
Under 35 U.S.C. §112, Second Paragraph

Claims 23, 33, 36, 39, 42, 44 and 46 were rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention.

Accordingly, Applicant has amended these claims as indicated in the section immediately above, and Applicant respectfully requests that the rejection of claims 23, 33, 36, 39, 42, 44 and 46 under 35 U.S.C. §112, second paragraph, be withdrawn.

**Rejection of Claims 17-18, 21-22, 26-27, 36-40, 42 and 44
under 35 U.S.C. §102(e) as Anticipated by Hale**

Claims 17-18, 21-22, 26-27, 36-40, 42 and 44 were rejected under 35 U.S.C. §102(e) as being anticipated by Hale (U.S. 6,407,929).

Hale discloses an electronic package 302 (FIG. 3) having embedded capacitors. The package 302 comprises one or more non-conductive layers 304, 310 (FIG. 3) formed of organic material (col. 4, lines 40-47) in an embodiment. Patterned conductive material on one level may be electrically insulated from patterned conductive material on another interconnect level by dielectric material layers, and connections between the conductive material at various interconnect levels may be made using vias (col. 4, lines 59-64).

Hale fails to disclose all of the structural elements recited in independent claim 17, as amended. For example, Hale fails to disclose at least one sprocket hole in the film outside the conductor region.

For the above reasons, independent claim 17 should be found to be allowable over Hale, and Applicant respectfully requests that the rejection of claim 17 under 35 U.S.C. §102(e) as anticipated by Hale be withdrawn.

Claims 18 and 36, which depend from claim 17 and incorporate all of the limitations therein, are also asserted to be allowable for the reasons presented above.

Regarding independent claims 21, 26, 31, and 37, Hale fails to disclose the plurality of lands including a plurality of signal lands around the periphery of the conductor region, the plurality of lands further including a plurality of power and ground lands within a central core region of the conductor region. Hale does not define a "conductor region". Nor does Hale describe a "periphery" or a "central core region".

For the above reasons, independent claims 21, 26, 31, and 37 should be found to be allowable over Hale, and Applicant respectfully requests that the rejection of claim 21, 26, 31, and 37 under 35 U.S.C. §102(e) as anticipated by Hale be withdrawn.

Claims 22-23 and 42, which depend from claim 21 and incorporate all of the limitations therein, are also asserted to be allowable for the reasons presented above.

Claims 27 and 44, which depend from claim 26 and incorporate all of the limitations therein, are also asserted to be allowable for the reasons presented above.

Claims 32-33 and 46, which depend directly or indirectly from claim 31 and incorporate all of the limitations therein, are also asserted to be allowable for the reasons presented above.

Claims 38-40, which depend directly or indirectly from claim 37 and incorporate all of the limitations therein, are also asserted to be allowable for the reasons presented above.

**Common Ownership of Present Application
and U.S. Pat. No. 6,407,929 (Hale et al.)**

The present application and U.S. Pat. No. 6,407,929 were, at the time the invention of the present application was made, owned by Intel Corporation.

In addition to Applicant's arguments (appearing in the next sections) for independent patentability of all claims that were rejected under 35 U.S.C. §103(a), employing the Hale reference, i.e. claims 23, 31-33, and 46, Applicant also asserts the applicability of 35 U.S.C. §103(c), which is set forth immediately below:

(c) Subject matter developed by another person which qualifies as prior art only under one or more of subsections (e), (f), and (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

Applicant asserts that the Hale reference is disqualified as prior art against Applicant's claims in any obviousness rejection under 35 U.S.C. §103.

Accordingly, Applicant requests that the rejection of claims 23, 31-33, and 46 as unpatentable under 35 U.S.C. §103(a) over Hale or over Debenham in view of Hale be withdrawn.

Rejection of Claim 23 under 35 U.S.C. §103(a)
as Unpatentable over Hale

Claim 23 was rejected under 35 U.S.C. §103(a) as being unpatentable over Hale et al.

Hale fails to teach or suggest all of the claim limitations present in independent claim 21, as amended, so a *prima facie* case of obviousness has not been established. To establish a *prima facie* case of obviousness under 35 U.S.C. §103, the prior art reference (or references when combined) must teach or suggest every limitation of the claim. MPEP §2143.

For example, one of the limitations of claim 21, as amended, that Hale fails to disclose is the plurality of lands including a plurality of signal lands around the periphery of the conductor region, the plurality of lands further including a plurality of power and ground lands within a central core region of the conductor region. Hale does not define a “conductor region”. Nor does Hale describe a “periphery” or a “central core region”.

For the above reasons, independent claim 21, and dependent claim 23, should be found to be allowable over Hale, and Applicant respectfully requests that the rejection of claim 23 under 35 U.S.C. §103(a) as unpatentable over Hale be withdrawn.

Rejection of Claims 31-33 and 46 under 35 U.S.C. §103(a) as Unpatentable
over Debenham in view of Hale

Claims 31-33 and 46 were rejected under 35 U.S.C. §103(a) as being unpatentable over Debenham et al. (U.S. 6,365,421) in view of Hale et al.

Debenham discloses a computer system 10 (FIG. 1) having a microprocessor 12, a memory module 14, and a display 24.

The Examiner’s asserted combination of Debenham and Hale fails to teach or suggest all of the claim limitations present in independent claim 31, as amended, so a *prima facie* case of obviousness has not been established. To establish a *prima facie* case of obviousness under 35 U.S.C. §103, the prior art reference (or references when combined) must teach or suggest every limitation of the claim. MPEP §2143.

For example, one of the limitations of claim 31, as amended, that the combination of Debenham and Hale fails to disclose is the plurality of lands including a plurality of signal lands around the periphery of the conductor region, the plurality of lands further including a plurality of power and ground lands within a central core region of the conductor region. Neither Debenham nor Hale defines a “conductor region”, a “periphery”, or a “central core region”.

For the above reasons, independent claim 31 should be found to be allowable over the combination of Debenham and Hale, and Applicant respectfully requests that the rejection of claim 31 under 35 U.S.C. § 103(a) as unpatentable over Debenham in view of Hale be withdrawn.

Claims 32-33 and 46, which depend directly or indirectly from claim 31 and incorporate all of the limitations therein, are also asserted to be allowable for the reasons presented above.

Additional Elements and Limitations

Applicant considers additional elements and limitations of claims 17-18, 21-23, 26-27, 31-33, 36-40, 42, 44, and 46 to further distinguish over the cited references, and Applicant reserves the right to present arguments to this effect at a later date.

Documents Cited But Not Relied Upon For This Office Action

Applicant need not respond to the assertion of pertinence stated for the references cited but not relied upon by the Office Action, because these references are not made part of the rejections in this Office Action. Applicant is expressly not admitting to this assertion and reserves the right to address the assertion should it form part of future rejections.

Conclusion

Applicant respectfully submits that claims 17-18, 21-23, 26-27, 31-33, 36-40, 42, 44, and 46 are in condition for allowance, and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney, Walter W. Nielsen (located in Phoenix, Arizona) at (602) 298-8920, or the below-signed attorney (located in Minneapolis, Minnesota) to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

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Date Sept. 2, 2003

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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Commissioner of Patents, P.O.Box 1450, Alexandria, VA 22313-1450, on this 2 day of September, 2003.

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Name

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Signature